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***RADIO FREQUENCY (RF) SPECTRUM
MANAGEMENT***

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements Department of Defense (DoD) Directive (DoDD) 4650.1, *Management and Use of the Radio Frequency Spectrum*, June 24, 1987; Department of Commerce (DoC), National Telecommunications and Information Administration (NTIA) *Manual of Regulations and Procedures for Federal Radio Frequency Management* (NTIA Manual), January 2000, w/May and September 2000 Revisions; Air Force Policy Directive (AFPD) 33-1, *Command, Control, Communications, and Computer (C4) Systems*; and the procedures established by the United States Military Communications-Electronics Board (USMCEB). Air Force Manual (AFMAN) 33-120, *Radio Frequency (RF) Spectrum Management*, provides supporting material. It identifies responsibilities for Air Force management of the RF spectrum and provides procedures for implementing its use. The Annual Trunking Usage Report requirement in this publication, paragraphs **1.5.1.1.14.** and **1.5.5.16.**, is exempt from licensing in accordance with Air Force Instruction (AFI) 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collections*. Refer technical questions on the content of this instruction to the Air Force Frequency Management Agency (AFFMA/SCX), 2461 Eisenhower Avenue, Suite 1203, Alexandria VA 22331-1500. Refer recommended changes and conflicts between this and other publications on an AF Form 847, **Recommendation for Change of Publication**, through channels, to Headquarters Air Force Communications Agency (HQ AFCA/ITPP), 203 W. Losey Street, Room 1100, Scott AFB IL 62225-5222. See **Attachment 1** for a listing of references and supporting information. Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule* (will become AFMAN 33-322, Volume 4). The Paperwork Reduction Act of 1974 as amended in 1996 and AFI 33-360, Volume 2, *Forms Management Program*, affects this publication.

(INCIRLIK) AFI 33-118, 3 April 2002, and USAFE SUP 1, 3 October 2002, are supplemented as follows: This supplement applies to all Incirlik Air Base Group units and its Geographically Separated

Unites (GSUs). Submit recommended changes, questions, and notification of conflicts between this supplement and other publications to Incirlik Air Base Group, 39th Communications Squadron, Frequency Management Office, (39th CS/SCMCF), UNIT 7060 Box 15 APO AE 09824. Use AF Form 847, **Recommendation for Change of Publication**, through channels when making recommended changes. Maintain and dispose of records created as a result of prescribed processes in accordance with AFMAN 37-139, *Records Disposition Schedule*.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

Added Chapter numbers, and titles. Modified responsibilities in **Chapter 1**, Managing the Radio Frequency Spectrum. Added **Chapter 4**, Systems Guidance, as guidance for new areas of interest, and **Chapter 5**, Information Collections, Records, and Forms. Expanded and updated **Attachment 2**, Frequency Assignment Classification Reference.

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Chapter 1

MANAGING THE RADIO FREQUENCY (RF) SPECTRUM

1.1. General. Both national and international regulatory bodies require effective and efficient use of the RF spectrum. Effective and efficient use is defined as applying design or operational techniques that conservatively use RF spectrum in a compatible (i.e., non-interference) manner. Mark, store, control, and transmit security classification of Air Force frequency records, (DD Form 1494, **Application for Equipment Frequency Allocation**, or other related documents according to DoD 5200.1-R, *Information Security Program Regulation*, January 14, 1997; and MCEB-M-019-98, *DoD Frequency Assignment Classification Reference* (see [Attachment 2](#)).

1.2. International Spectrum Management. The International Telecommunications Union (ITU) is the international body responsible for international frequency allocations, worldwide telecommunications standards and telecommunications development activities.

1.2.1. The US is one of the 188 member nations that make up the ITU. International agreements signed by the President and ratified by the United States Senate gain treaty status.

1.2.2. The RF spectrum is a natural resource independently managed by each sovereign nation within their boundaries. This basic consideration of international spectrum management becomes extremely important when US military forces operate abroad. Units must obtain host nation approval to use frequencies before US forces can legally operate.

1.3. US National Spectrum Management. Title 47, United States Code (U.S.C.), Section 151 et seq., *The Communications Act of 1934* established separate control of federal government and non-federal (civilian) use of the RF spectrum. Under this act, the only government agencies that assign and control the use of frequencies in the US are the NTIA and the Federal Communications Commission (FCC) ([Figure 1.1](#)).

1.3.1. The NTIA assigns and regulates frequencies for federal users. The NTIA Manual governs all federal (including military) use of the RF spectrum within the US and its Possessions (US&P).

1.3.2. The FCC assigns and regulates frequencies for non-federal users. Non-federal users include private citizens, companies, and state/local government users.

1.3.3. The RF spectrum is allocated between government (federal) and non-government (civil) users with portions of the spectrum shared (see NTIA Manual). Federal users must utilize frequency bands allocated for government or shared use. A government frequency assignment may be authorized in a non-government band provided the request is coordinated and granted approval by the FCC.

Figure 1.1. US National Spectrum Management.



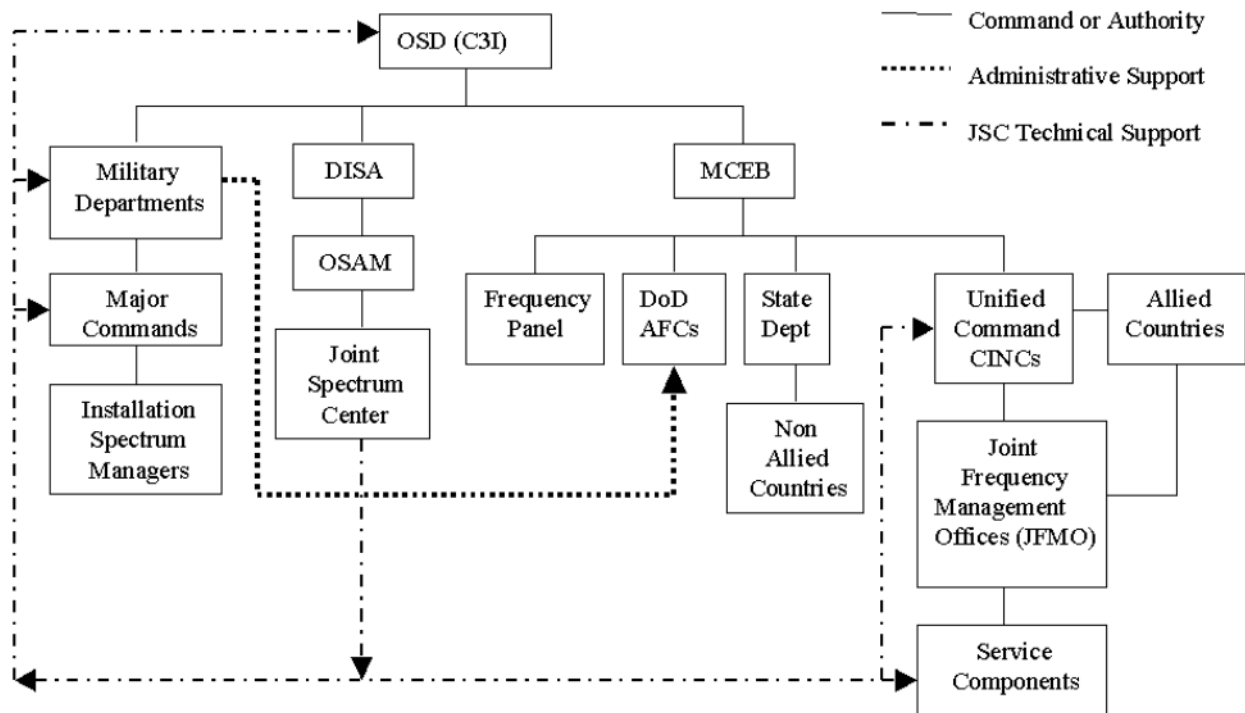
1.3.4. Request overseas operations through the Theater Commander-in-Chief (CINC).

1.4. Department of Defense Spectrum Management. The Under Secretary of Defense (USD[AT&L]) sets policy for acquiring systems that use the RF spectrum and ensures compliance with RF spectrum support procedures. The Assistant Secretary of Defense develops overall DoD policy for managing and using the RF spectrum. DoD activities involved in frequency management (see [Figure 1.2.](#)) are:

1.4.1. US Military Communications Electronics-Board (MCEB). The MCEB develops joint policy and provides direction in military communications-electronics matters.

1.4.1.1. The MCEB Joint Frequency Panel (JFP). The MCEB JFP develops RF spectrum certification guidance for US military operations.

Figure 1.2. DoD Spectrum Management.



1.4.1.2. DoD Area Frequency Coordinator (AFC). The DoD AFCs are responsible for ensuring successful frequency coordination in the areas that lie within, are adjacent to, or are within radio line-of-sight to any range spectrum dependent system, including all systems brought to a National Test Range or other designated complex. Activities must coordinate military frequency use within a DoD AFC area of responsibility (AOR) with the appropriate DoD AFC before starting operations. DoD AFCs are directly responsible to their military department for administrative purposes and to the MCEB for policy guidance. The Allied Communications Publication (ACP) 190, US Supp 1, (C) *Guide to Frequency Planning*, contains specific policy guidance. Refer to AFMAN 33-120 for a list of the DoD AFC geographic descriptions, addresses, and phone numbers.

1.4.1.2.1. Air Force-Sponsored Department of Defense Area Frequency Coordinators. The Air Force provides DoD AFC services at the following locations:

1.4.1.2.1.1. Headquarters Air Force Materiel Command (HQ AFMC) provides support to the Gulf AFC at Eglin AFB FL.

1.4.1.2.1.2. Headquarters Air Force Space Command provides support to the Eastern AFC at Patrick AFB FL.

1.4.1.2.1.3. Headquarters Air Combat Command (HQ ACC) provides support to the Nellis AFC at Nellis AFB NV.

1.4.1.2.2. Responsibilities of Air Force-sponsored DoD AFCs are:

1.4.1.2.2.1. Manage and coordinate the use of frequencies for the range commanders according to ACP 190, US SUPP 1 (C) and the NTIA Manual.

1.4.1.2.2.2. Promote the DoD electromagnetic compatibility (EMC) program.

1.4.1.2.2.3. Ensure compliance of range and range-hosted spectrum dependent systems with national and DoD spectrum management regulations, policies, and procedures.

1.4.1.2.2.4. Make temporary frequency assignments supporting range operations within the scope of national regulations and the NTIA Manual.

1.4.1.2.2.5. Review new or changed DD Forms 1494 for impact on range RF spectrum use, and provide comments to the AFFMA, when appropriate.

1.4.1.2.2.6. Advise the range or area commander, and all affected organizations, of RF interference that may result from scheduled operations and tests, and recommend solutions. Mutual resolution of conflicts is the responsibility of the commanders concerned.

1.4.1.2.2.7. Review and evaluate frequency assignment requests proposed for use within their areas of cognizance. The evaluation will establish the compatibility of proposed frequencies with national and service test and training ranges within line-of-sight of any operations.

1.4.1.2.2.8. Refer unresolved problems on RF spectrum management practices, technical comments, or recommended operating conditions for resolution through Air Force command channels to AFFMA according to AFI 10-707, *Spectrum Interference Resolution Program*.

1.4.1.2.2.9. Coordinate and deconflict all range RF spectrum operations under their purview with military, federal, or civil spectrum users, to include within line-of-sight of any ground or airborne system.

1.4.1.2.2.10. Coordinate spectrum use for any airborne system operations where the line-of-sight radio horizon can extend over multiple DoD AFC geographical boundaries.

1.4.2. Defense Information Systems Agency (DISA). The DISA maintains frequency records, analyzes frequency use, and requests frequency assignments for the Defense Communications System.

1.4.2.1. Office of Spectrum Analysis and Management (OSAM). The OSAM, under the DISA, is the DoD focal point on RF spectrum management issues. OSAM ensures consistent enforcement of DoD spectrum management policy and procedures. OSAM performs technical analysis of all government legislation that may affect DoD access to the federal spectrum.

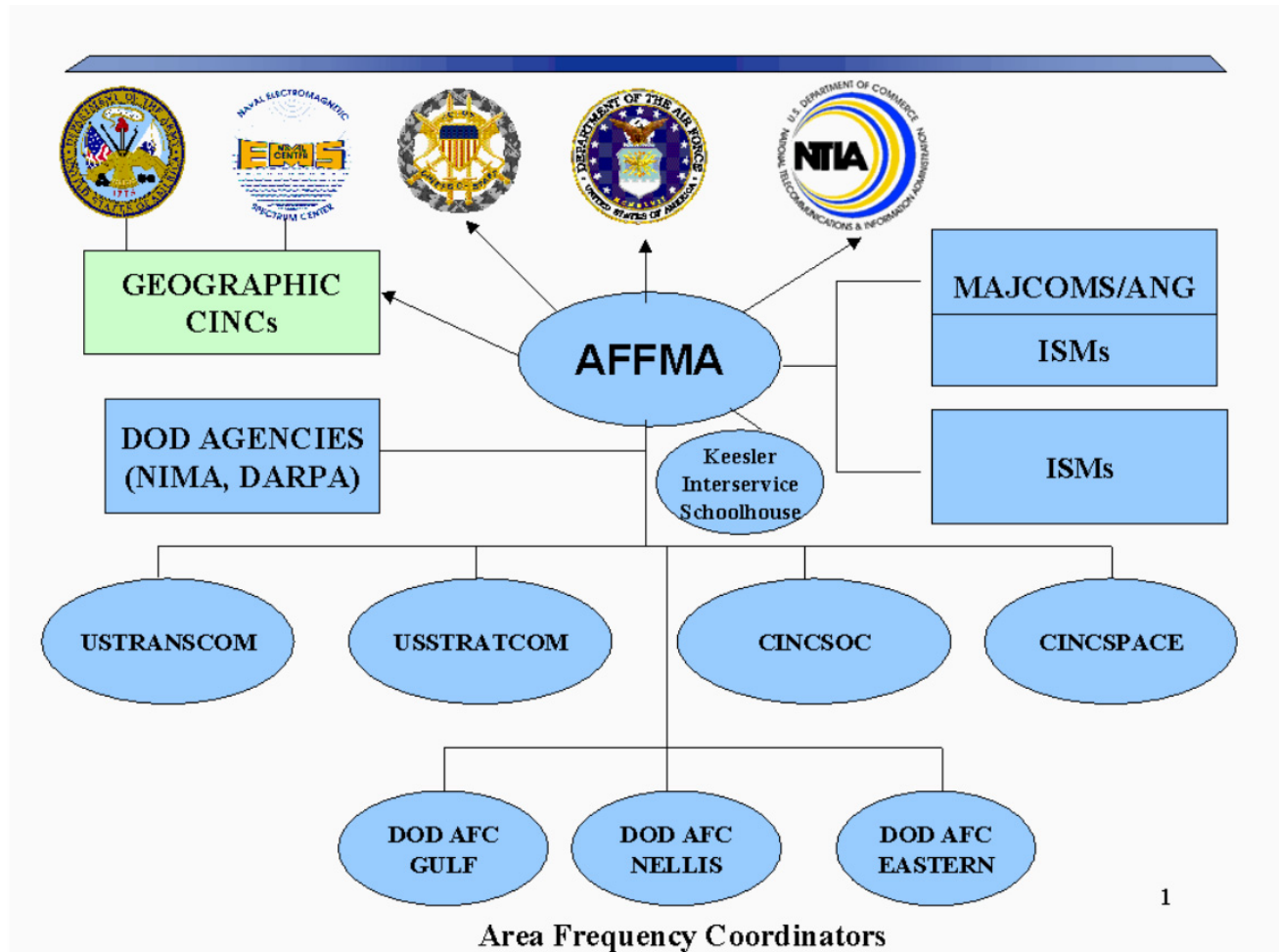
1.4.2.2. Joint Spectrum Center (JSC). The JSC provides technical support to the unified commands, military department frequency management offices, and other DoD agencies. It serves as the DoD focal point for EMC analysis matters and maintains the DoD Frequency Resource Record System (FRRS) database.

1.4.3. Military Department Spectrum Management Offices. There are three offices responsible for carrying out spectrum policy within the military services, the US Army Communications-Electronics (C-E) Service Office, the Naval Electromagnetic Spectrum Center, and the AFFMA.

1.5. Air Force Spectrum Management. The Headquarters United States Air Force (HQ USAF/SC) is the senior Air Force officer responsible for RF spectrum management. The HQ USAF/SC sets policy for managing RF spectrum use to support the Air Force mission and exercises control over the frequency management process through AFFMA.

1.5.1. The AFFMA represents Air Force users in the federal spectrum management process. AFFMA processes frequency requests for the major commands (MAJCOM) for use at installations within the US&P. The MAJCOMs work through their Installation Spectrum Managers (ISM) to notify using activities of frequencies assigned. This chapter discusses each of these levels of spectrum management (see [Figure 1.3](#)).

Figure 1.3. Air Force Levels of Spectrum Management.



1.5.1.1. AFFMA Responsibilities:

- 1.5.1.1.1. Carries out Air Force RF spectrum management policy.
- 1.5.1.1.2. Evaluates Air Force plans for needed RF spectrum support.
- 1.5.1.1.3. Represents and defends Air Force RF spectrum technical interests in committees, groups, and organizations that address RF spectrum management matters.
- 1.5.1.1.4. Negotiates at the departmental, national, and international levels to obtain frequency allocations and assignments to satisfy Air Force and MAJCOM exercises, crises, contingencies, wartime, and day-to-day RF requirements for use of the RF spectrum.
- 1.5.1.1.5. Gives functional guidance to Air Force-sponsored DoD AFCs.
- 1.5.1.1.6. Assists in resolution of interference problems with Air Force-assigned frequencies.

- 1.5.1.1.7. Assists MAJCOMs in carrying out their RF spectrum management programs to include emitter surveys.
 - 1.5.1.1.8. Provides guidance on using the RF spectrum to developers and users of all Air Force systems that require RF spectrum access or whose performance can be influenced by RF energy. This includes communications and information systems, electronic warfare operations, intelligence and weapons systems, commercial-off-the-shelf (COTS) equipment, lasers and electro-optics, and any other equipment that relies on the RF spectrum.
 - 1.5.1.1.9. Determines impact of development of non-Air Force RF spectrum-dependent systems on Air Force's current or planned operational use of the RF spectrum.
 - 1.5.1.1.10. Provides assistance to Air Force activities requiring JSC services.
 - 1.5.1.1.11. Helps Air Force activities obtain frequency engineering and high frequency propagation services.
 - 1.5.1.1.12. Provides curriculum input and support to the Interservice Radio Frequency Management School under the Air Education and Training Command.
 - 1.5.1.1.13. Establishes criteria for the conduct of MAJCOM Base Emitter Surveys. Assists the MAJCOMs as required/requested in performing base-wide emitter surveys in concert with the ISM. Tracks the closure of all items, deficiencies, and/or required actions documented as a result of the MAJCOM emitter survey report.
 - 1.5.1.1.14. Compiles data from MAJCOMs and submits Consolidated Annual Trunking Usage Report to the NTIA.
- 1.5.2. Major Commands (MAJCOM) Responsibilities. Carries out Air Force policy, practices, and procedures for managing use of the RF spectrum.
- 1.5.2.1. Refrains from degrading friendly systems or operations during command, control, and communications countermeasures training activities.
 - 1.5.2.2. Makes sure the spectrum manager is actively involved in communications/information planning, and assists in coordinating and obtaining frequency support to meet the MAJCOM mission.
 - 1.5.2.3. Ensures incorporation of wartime and contingency spectrum management procedures into the appropriate operation plan/contingency plan appendices.
 - 1.5.2.4. Provides RF spectrum guidance to the MAJCOM acquisition, logistics, intelligence, operations, and communications planning staffs.
 - 1.5.2.5. Manages RF spectrum use in the concept, planning, deployment, operation, and evaluation phases of MAJCOM-supported exercises and operations.
 - 1.5.2.6. Processes and obtains frequency assignments and allocations for spectrum-dependent systems in support of operational requirements.
 - 1.5.2.7. Provides guidance on using the RF spectrum early in the concept, exploration, demonstration, and validation phases of the acquisition process.
 - 1.5.2.8. Obtains USMCEB JFP guidance before assuming contractual obligations for the full-scale development, production, or procurement of these RF systems.

1.5.2.9. Reviews host-nation support comments from the USMCEB JFP before contracting for full-scale development, production, or procurement of systems for use in another nation.

1.5.2.10. Reviews the MAJCOM and subordinate unit RF spectrum management programs and performs customer interface visits as required.

1.5.2.11. Performs base-wide emitter surveys in concert with the ISM at least every 5 years. Provides the AFFMA a copy of the survey findings. Tracks and/or coordinates required corrective actions documented in the emitter survey report (applies to Air Force installations in the US&P only).

1.5.2.12. Ensures ISMs provide appropriate frequency assignments and guidance to the users.

1.5.2.13. Provides each ISM a current listing or electronic database of all frequencies assigned to the installation and those outlying facilities hosted by the installation.

1.5.2.14. Maintains, as a minimum, the following frequency management publications:

AFI 33-118, *Radio Frequency Spectrum Management*

AFI 10-707, *Spectrum Interference Resolution Program*

AFMAN 33-120, *Radio Frequency (RF) Spectrum Management*

ACP 190 US Supp-1, (C) *Guide to Frequency Planning* (U)

USMCEB PUB 7, *Frequency Resource Record System (FRRS) Standard Frequency Action Format (SFAF)*, 1 October 1998, w/Changes 1 and 2

CJCSI 3320.01, *Electromagnetic Spectrum Use in Joint Military Operations*, 1 May 2000

CJCSI 3220.02, *Joint Spectrum Interference Resolution (JSIR)*

CJCSI 3320.03, *Joint Communications Electronics Operation Instruction*, 1 January 1999

CJCSM 3212.02, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*, 1 October 1998

CJCSM 3320.01, *Joint Operations in Electromagnetic Battlespace*, 6 January 2000

1.5.2.15. Provides ISMs with the necessary spectrum management training required to perform as the ISM.

1.5.2.16. Writes and publishes supplements to AFI 33-118, AFMAN 33-120, and AFI 10-707, as required.

1.5.3. Installation Commander Responsibilities. Responsible for all electromagnetic radiation emanating from the installation and from those outlying activities hosted by the installation. Ensures a viable RF management program is in place and supports installation requirements. The installation commander can prohibit **ANY** RF emitter from operating (cease and desist) when anticipating interference to mission essential electromagnetic equipment.

1.5.4. Installation Communication-Information Systems Officer Responsibilities:

1.5.4.1. Appoints in writing, a primary and alternate ISM for the installation commander.

1.5.4.2. Ensures the ISM serves a minimum of 12 months in the position.

1.5.4.3. Ensures the parent MAJCOM Frequency Management Office (FMO) receives the ISM appointment letters.

1.5.4.4. Ensures the ISM receives the necessary spectrum management training.

1.5.5. Installation Spectrum Manager:

1.5.5.1. Ensures using activities understand the parameters of their assigned frequencies.

1.5.5.2. Maintains a current listing or electronic database of all frequencies assigned to the installation and outlying activities hosted by the installation. Provide all units with a JSMS or Spectrum XXI generated Site License or MAJCOM frequency assignment notification for all frequencies used.

1.5.5.3. Conducts a spectrum management customer education program.

1.5.5.4. Processes frequency proposals, and applications for frequency allocations, and ensures submission through the appropriate command channels.

1.5.5.5. Provides frequency management assistance and interprets guidance to host installation and tenant activities.

1.5.5.6. Reviews installation OPLANs and requirements documents, and obtains frequency support through command channels.

1.5.5.7. Ensures contractor activities using Air Force frequencies to support Air Force requirements follow Air Force policies for RF spectrum use.

1.5.5.8. In cooperation with the using activity, reviews the frequency assignment to validate existing parameters and submits a modification, renewal or deletion, as required.

1.5.5.9. Submits frequency deletions according to AFMAN 33-120 and USMCEB PUB 7, through the appropriate MAJCOM FMO for frequency assignments no longer needed.

1.5.5.10. Coordinates spectrum use with the DoD AFCs for any system, including airborne operations, within the AFC's AOR. Pays particular attention where the line-of-sight radio horizon can extend within DoD AFC geographical boundaries.

1.5.5.11. Performs a base-wide emitter survey in concert with the MAJCOM spectrum management office at least once every 5 years.

1.5.5.12. Initiates assignment actions (i.e., submit modifications, deletions, or news) necessary to correct emitter survey results.

1.5.5.13. Ensures all Memorandums of Understanding and agreements are on file.

1.5.5.14. Maintains a current point of contact (POC) listing (name, unit, e-mail, address, and phone number) for each unit.

1.5.5.15. Maintains, as a minimum, the following frequency management publications:

AFI 10-707, Spectrum Interference Resolution Program

AFI 33-118, Radio Frequency Spectrum Management

AFMAN 33-120, Radio Frequency (RF) Spectrum Management

USMCEB PUB 7, *Frequency Resource Record System (FRRS) Standard Frequency Action Format (SFAF)*, 1 October 1998, w/Changes 1 and 2

- 1.5.5.16. Collects data and submits Annual Trunking Usage Reports to MAJCOM.
- 1.5.5.17. Writes and publishes installation instructions or supplements to AFI 33-118, AFMAN 33-120, and AFI 10-707, as required.
- 1.5.5.18. Obtains spectrum supportability guidance for new systems.
- 1.5.5.19. Complies with the requirements of the Frequency Review Program (see [Chapter 3](#)).
- 1.5.5.20. Maintains appropriate frequency management records for the installation.
- 1.5.5.22. (Added-INCIRLIK) Reviews and updates the electromagnetic radiation (EMR) survey semi-annually or as required.
- 1.5.5.23. (Added-INCIRLIK) Provides 39th ABG weapons safety office a copy of the semi-annual EMR survey with detailed locations of all antennas.
- 1.5.5.24. (Added-INCIRLIK) Ensures electronic security equipment, radio transmitters, or other EMR emitting devices are not installed (excluding portable radios) in vault security areas (VSA) or weapons storage areas (WSA), until an EMR survey has been completed and approval has been granted.
- 1.5.6. Using Activities Responsibilities. Each organization operating a RF emitting device will:
 - 1.5.6.1. Obtain a frequency assignment before using devices that intentionally emit RF energy.
 - 1.5.6.2. Maintain a copy of frequency authorizations received from the ISM.
 - 1.5.6.3. Request the minimum number of frequencies necessary to accomplish the mission.
 - 1.5.6.4. Request minimum transmitter power and antenna gain/height necessary to ensure adequate coverage.
 - 1.5.6.5. Ensure electromagnetic radiating equipment operations comply with authorized parameters identified in the frequency assignment notification.
 - 1.5.6.6. Act promptly to report and resolve incidents of interference according to AFI 10-707.
 - 1.5.6.7. Use radiation-suppression devices (dummy loads) as much as possible when tuning, testing, or experimenting with any equipment that emits radio frequencies.
 - 1.5.6.8. Provide, in writing to the ISM, the name and phone number of a POC for unit frequency matters and provide updated information when the POC changes.
 - 1.5.6.9. Notify the ISM, in writing, immediately when frequencies are no longer required.
 - 1.5.6.10. Participate in emitter surveys and take immediate corrective action (i.e., reduce transmit power, lower antenna, or stop operating on unauthorized frequencies, etc.) to comply with assignment restrictions identified.
 - 1.5.6.11. Ensure the appropriate spectrum supportability is accomplished prior to purchasing any RF equipment or entering into any contractual obligations involving the use of RF dependent devices.

1.5.6.12. Obtain approval from the ISM before modifying any existing emitters or antennas (i.e., increase power, change antenna height or gain).

1.5.6.15. (Added-INCIRLIK) Ensures electronic security equipment, radio transmitters, or other EMR emitting devices are not installed (excluding portable radios) in vault security areas (VSA) or weapons storage areas (WSA), until an EMR survey has been completed and approval has been granted.

1.5.7. HQ AFCA Responsibilities. Confirm the frequency needs of the Global Command and Control System, the Military Affiliate Radio System, and other HQ AFCA-controlled systems (see AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones, and the Military Affiliate Radio System*).

Chapter 2

EQUIPMENT ALLOCATION (SPECTRUM CERTIFICATION)

2.1. Process and Guidance. Spectrum certification is the process of reviewing the equipment characteristics to determine realistic supportability expectations to include conformance with the international and national allocation tables, and EMC standards (see [Figure 2.1.](#)). This process, often referred to as equipment certification, is required for all radio frequency emitters (transmitters or receivers) including COTS and nondevelopmental items purchases, unless specifically exempt. Following the certification process, obtain a frequency assignment approval for each discrete frequency required in order to have authority to operate. AFMAN 33-120 details the specifics and requirements of the process.

2.1.1. DoDD 4650.1 requires all DoD components to obtain radio frequency guidance (spectrum certification) for communications-electronics systems from the MCEB. Components must obtain guidance before assuming contractual obligations for the full-scale development, production, or procurement of those systems. Perform spectrum certification by submitting a DD Form 1494.

2.2. Allocation Tables. Frequency allocation tables represent the general RF spectrum use plan nationally and internationally (each nation that manages their RF resources has a national table). Separate the allocation tables based on type of service (i.e., fixed service, aeronautical mobile service, etc.). Make every effort to plan equipment design, and use the radio frequency spectrum in accordance with the allocation tables. Any frequency use not in compliance with the allocation tables requires proof that interference with authorized users will not occur before a nation will grant access. The Air Force, as a US Government body, must use US Government allocated bands. Use of non-government bands must be justified and assessed for compatibility. The NTIA Manual contains international and national allocation tables. Systems that do not comply with the allocation tables will not receive primary use status.

The flowchart illustrates the Frequency Management Process, starting from the Contractor and moving through various military and civilian offices.

```

graph TD
    Contractor[CONTRACTOR  
(Generate DD Form 1494)] -.-> FMO[FREQUENCY MGT OFFICE  
(FMO)  
(Submit DD Form 1494 and  
Releasable DD Form 1494 Data)]
    FMO --> MILDEPSMO[MILDEPSMO  
(Review and Submit)]
    MILDEPSMO -- "DD Form 1494" --> NTIASPS[NTIA/SPS  
(Comment)]
    MILDEPSMO -- "DD Form 1494" --> JSC1[JSC  
(Comment)]
    MILDEPSMO -- "DD Form 1494" --> MCEB_J12[MCEB J-12 PERMANENT WORKING GROUP  
(Comment)]
    MILDEPSMO -- "Releasable DD Form 1494 Data" --> JSC2[JSC  
(Distribute Releasable DD Form 1494 Data)]
    JSC2 --> CINC_HN[CINC/HN  
(Comment)]
    JSC2 --> CCEB_NM[CCEB AND MEMBER NATIONS  
(Comment)]
    CINC_HN <--> AFFMA[AFFMA  
(Consolidates Comments, Drafts Guidance or Notes-to-Holders)]
    CCEB_NM <--> AFFMA
    NTIASPS <--> AFFMA
    JSC1 <--> AFFMA
    MCEB_J12 <--> AFFMA
    IRAC[IRAC  
(Comment)] -.-> AFFMA
    AFFMA --> MCEB_J12_PWG[MCEB J-12 PERMANENT WORKING GROUP  
(Approves and Signs Guidance and Notes-to-Holders)]
    MCEB_J12_PWG --> JSC3[JSC  
(Distribute MCEB Guidance and Notes-to-Holders)]
    JSC3 --> AFFMA_Action[AFFMA  
(Appropriate Action)]
    AFFMA_Action --> FMO_Action[FREQ MGT OFFICE  
(FMO)  
(Initiates Frequency Assignment Request)]
    
```

Legend:

- As Required

ACRONYMS

CCEB	- Combined Communications-Electronics Board
CINC	- Commander-in-Chief
HN	- Host Nation
IRAC	- Interdepartment Radio Advisory Committee
JSC	- Joint Spectrum Center
NTIA	- National Telecommunications and Information Administration
SPS	- Spectrum Planning Subcommittee
MILDEPSMO	- Military Service Spectrum Management Office (e.g. AF Frequency Mgt Agency, US Army Communications-Electronics Services Office, and Naval Electromagnetic Spectrum Center)

2.3.1. National EMC Standards. The NTIA Manual contains the national RF use standards. All communications-electronics systems will comply with the standards in the NTIA Manual. If compliance is not technically possible, proof that noncompliance will not cause electromagnetic interference (EMI) is required. Operations may be authorized on a non-interference basis. In any instance of harmful interference caused by nonconformance with standards, the responsibility for eliminating the harmful interference normally rests with the agency operating in nonconformance.

2.3.3. Host-Nation EMC Standards. Host-nation authorities consider host nation EMC standards during the DD 1494 coordination process.

2.4. Equipment Exempt from Spectrum Certification. The following categories of equipment in the US&P are exempt from the spectrum certification process:

- 2.4.1. Code of Federal Regulations (CFR), Title 47, Part 15 devices.
- 2.4.2. CFR, Title 47, Part 18 devices.
- 2.4.3. CFR, Title 47, Part 95 devices.
- 2.4.4. RF devices and Built-in Test equipment that does not exceed the technical criteria outlined in the NTIA manual.
- 2.4.5. Signal generators.
- 2.4.6. Bench test or antenna-testing equipment.
- 2.4.7. Electronic fuses that activate detonation devices.
- 2.4.8. Unmodified COTS Family Radio Service (FRS) transceivers.
- 2.4.9. Unmodified COTS Citizens' Band (CB) radios, and low power radios that operate for short distances on the frequencies 27575 and 27585 Kilohertz (kHz).
- 2.4.10. Unmodified COTS low power cordless telephones.
- 2.4.11. Cellular telephones used to access a commercial service provider.
- 2.4.12. International Maritime Satellite (INMARSAT) terminals.
- 2.4.13. Airborne Radio Telephone System radios that operate on leased channels in the 800 Megahertz (MHz) band.
- 2.4.14. Infrared and ultraviolet systems used, among other things, to measure heat intensity and spectral signatures of various targets.
- 2.4.15. Lasers and other systems that operate above 3000 Gigahertz (GHz).
- 2.4.16. Global Positioning System receivers universally marketed for civil, industrial, private, and/or military applications.
- 2.4.17. Radio receivers used for reception of radio navigation signals from licensed ground stations, such as Distance Measuring Equipment, Very High Frequency (VHF) Omnidirectional Range, Instrument Landing System, etc.
- 2.4.18. Unmodified COTS airborne transceivers certified and registered for radio navigation operations within the civil national and international airspace management systems.
- 2.4.19. Radio and radar control heads, buss units, and software/hardware devices that interface with transmitting and receiving equipment but, by themselves, do not radiate nor receive electromagnetic energy; except RF modem devices.
- 2.4.20. Requirements for systems submitted directly to AFFMA for processing that are not owned by an agency of the military service (e.g., radio, radar, and telemetry sets), but are owned by or leased from a contractor or provider; and those networks owned or leased by the contractor or provider to meet any corporate requirements.
- 2.4.21. Antennas that do not radiate RF energy unless excited from a separate transmitting source.

2.5. DD Form 1494 Submission. The system program office generates and submits the DD Form 1494 for all systems acquired through HQ AFMC to one of HQ AFMC's systems centers, logistics centers,

installations, or facilities. These spectrum management offices send the completed applications directly to, AFFMA/SCOE, 2461 Eisenhower Ave., Hoffman I, Suite 1203, Alexandria, VA. 22331-1500, for processing and provide a courtesy copy to HQ AFMC Communications-Information Systems Officer/SCOC for filing. For system acquisitions by MAJCOMs other than HQ AFMC, the using activity must generate and submit the DD Form 1494 through their host MAJCOM channels.

2.5.1. The DD Form 1494 is processed in stages that closely parallel standard Air Force acquisition milestones via the following four stages. Users must submit DD Forms 1494 for non-acquisition programs at stage 1 for assessment and stage 4 if support has been deemed feasible.

2.5.1.1. Stage 1. Planning or Conceptual: Advises on feasibility of getting spectrum support and recommends modifications or changes in frequency bands needed to get spectrum support.

2.5.1.2. Stage 2. Experimental: Provides guidance for assuring spectrum support in later stages, and is needed before obtaining frequency assignments for experimental testing.

2.5.1.3. Stage 3. Developmental: Provides guidelines for assuring operational spectrum support needed before obtaining frequency assignments for developmental testing.

2.5.1.4. Stage 4. Operational: Certifies availability of spectrum support needed before making operational frequency assignments.

2.6. DD Form 1494 Lead-times. Approval normally takes 1 to 2½ years, depending on compliance with allocation tables and EMC standards, the operational environment, and host nation coordination. A DD Form 1494 must be submitted for each stage of development using the following lead times:

2.6.1. Stage 1. Planning or Conceptual:

2.6.1.1. Space Systems. Not earlier than seven years and not later than two years before satellite launch.

2.6.1.2. All Other Systems. Not less than one year before the planned date of initial operation.

2.6.2. Stage 2. Experimental:

2.6.2.1. Space Systems. No later than four years before satellite launch.

2.6.2.2. All Other Systems. Not less than one year before procuring equipment.

2.6.3. Stage 3. Developmental:

2.6.3.1. Space Systems. No later than three years before satellite launch.

2.6.3.2. All Other Systems. Not less than one year before award of a development contract.

2.6.4. Stage 4. Operational:

2.6.4.1. Space Systems. No later than two years before satellite launch.

2.6.4.2. All Other Systems. At least six months for all other equipment if there are only minor changes from previous stage submissions; one year for significant changes.

2.7. Note-to-Holders. Use the MCEB Note-to-Holders for amendments and updates to approved DD Forms 1494 documents and MCEB memoranda. Distribute host nation comments to applications by a Note-to-Holder.

2.7.1. A Note-to-Holders to distribute host nation and CINC comments received about an application is normally created by the AFFMA, approved by the MCEB J-12 Permanent Working Groups, and distributed to the MCEB J-12 distribution list.

2.7.2. Send requests for Note-to-Holders through established frequency management channels to the AFFMA.

2.8. Acknowledgment of MCEB Guidance. The program office or using activity must acknowledge receipt of the MCEB guidance within 60 days of receipt and notify the supporting MAJCOM of any concerns.

2.9. Additional Guidance for use Outside the US&P.

2.9.1. Foreign Disclosure. Obtain foreign disclosure in advance of coordinating host-nation frequency support for Air Force systems designed or planned to operate outside the US&P. The field-level foreign disclosure office (FDO), the MAJCOM FDO, or the Secretary of the Air Force (SAF/IAPD) disclosure office provides disclosure guidelines according to AFI 16-201, *Disclosure of Military Information to Foreign Governments and International Organizations*. The using MAJCOM must request and receive approval for foreign disclosure from each country in which equipment must operate.

2.9.1.1. A DD Form 1494 containing proprietary information must be clearly marked as “proprietary” and the information as “releasable” to the identified country or countries of concern.

2.9.1.1.1. Mark the DD Form 1494 Foreign Coordination and NTIA pages with the following statement. “This information is furnished upon condition that it will not be released to another nation without specific authority of the Department of the Air Force of the United States, that it will be used for military purposes only, that individual or corporate rights originating the information, whether patented or not, will be respected, that the recipient will report promptly to the United States any known or suspected compromise, and that the information will be provided substantially the same degree of security afforded it by DoD of the United States.”

2.9.1.2. The program manager ensures the developing or acquiring MAJCOM obtains the foreign disclosure approval, including the field-level FDO case number, and provides a copy of the approval release with the DD Form 1494 through the chain of command to AFFMA. If field-level disclosure approval is not received due to lack of delegated disclosure authority at the field level, notify the MAJCOM spectrum management office.

2.9.1.3. To ensure timely program implementation, host nation coordination must begin at stage 1 or stage 2 if sufficient data is available, and not later than (NLT) stage 3, developmental.

2.10. Spectrum Planning Subcommittee (SPS) Review. All major systems used in the US receive USMCEB review and NTIA certification. Other than the systems listed below, the AFFMA determines which DD Forms 1494 require SPS review.

2.10.1. New systems or subsystems and major modifications to existing systems involving use of satellites or spacecraft.

2.10.2. All new systems or subsystems and major modifications to existing systems previously reviewed by the SPS if there is a significant impact on the RF spectrum when considering geographical location and frequency availability.

2.10.3. Land mobile radio (LMR) trunked systems.

2.10.4. Other systems or facilities that the NTIA, Interdepartment Radio Advisory Committee (IRAC), or other government agencies refer to the SPS.

Chapter 3

FREQUENCY ACTIONS

3.1. Frequency Assignment Guidance. The installation commander can prohibit use of **ANY** RF emitter (cease and desist) when anticipating interference to mission essential electromagnetic equipment. All RF emitters must have a frequency assignment prior to operation. Before making a regular or temporary frequency assignment, the USMCEB must review the RF equipment via a DD Form 1494, unless specifically exempted in paragraph 2.4. Frequency assignment parameters must match the technical characteristics of the equipment as recommended in the USMCEB guidance. AFMAN 33-120 details the specifics and requirements of this process.

3.2. Types of Frequency Assignments. There are four types of frequency assignments:

3.2.1. Regular Assignment: A frequency assignment for an unspecified period of time; however, a periodic review of the assignment is required. Regular assignments will have a SFAF item 142 (Review date).

3.2.2. Temporary Assignment: A frequency assignment for a specified period of time, more than 90 days but less than five years. Temporary assignments will have a SFAF item 141 (Expiration date), but may be renewed for additional periods, if necessary. Coordinate this type of assignment at the national level and submit to the Frequency Assignment Subcommittee (FAS) for approval and recommendation to the NTIA for assignment. The assignment is entered into the Government Master File (GMF) with an appropriate expiration date. Air Force users may apply for a short-term, limited, temporary assignment up to 90 days. This type of short-term, temporary assignment is not entered into the GMF. Short-term, temporary assignments are renewable up to a total of 180 days from the initial date of assignment. Limit short-term, temporary assignments to urgent requirements (i.e., exercises, contingencies, short training periods, or to test/evaluate experimental equipment).

3.2.3. Trial Assignment: A frequency assignment for the purpose of selecting a suitable specific operating frequency for regular assignment.

3.2.4. Group Assignment: A frequency assignment made only to terrestrial stations and provides authority to operate but does not represent continuing operations, or provide an assignment for planning purposes.

3.3. Frequency Applications. An application is used for the following frequency assignment actions.

3.3.1. NEW (N): To apply for a new frequency assignment, the particulars of which, when approved is entered into the GMF. In some cases, a NEW assignment is used to replace an existing assignment (see instructions for submitting a SERIAL REPLACE action).

3.3.2. NOTIFICATION (F): Used to notify the approval of a frequency. Refer to the NTIA Manual.

3.3.3. MODIFICATION (M): Used to apply for the addition, subtraction, or removal of one or more of the particulars, other than Frequency (SFAF 110), the Agency Serial Number (SFAF 102), or the Transmitter State/Country (SFAF 300), of an existing frequency assignment.

3.3.4. RENEWAL (R): To apply for the extension of a TEMPORARY or TRIAL assignment and to simultaneously update other particulars of the assignment.

3.3.5. **DELETION (D):** To apply for the cancellation of a frequency assignment and the removal of all its particulars from the GMF.

3.3.6. **TEMPORARY (T):** To apply for a short-term (less than 90 days) assignment, the particulars of which, when approved, are NOT entered in the GMF. (Some national level coordination between the various federal agencies of the particulars may be accomplished, the results of which are retained within DoD databases for the duration of the approved use.) This type of temporary assignment must include a start date and an expiration date.

3.4. Lead-times. Lead-times provide federal agencies and overseas commands and host countries with the time necessary to coordinate and process applications for frequency actions. If the following lead-times are not met, the frequency request must include a mission impact statement if the assignment is not granted by the date requested. Limit such requests to only very serious consequences, safety of life, or urgent matters of national security. In all cases, requesting commands must document when the requirement does not meet the required lead-time.

3.4.1. **AFFMA lead-times for operations in the US&P.** The lead-times below start when the AFFMA receives the request and does not include time required by the MAJCOM or intermediate agencies.

3.4.1.1. **Regular Assignments.** Sixty days. In most cases, additional lead-time is required for all actions requiring coordination with the FCC or the Federal Aviation Administration (FAA). Requirements not in accordance with the national table of allocations, or have unusual technical parameters, may require additional engineering time or study, consequently requiring even longer lead-times. It is not uncommon for such requests to take more than six months at the national level.

3.4.1.2. **Temporary, Trial, and Group Assignments.** Sixty days. For those types of temporary assignments requiring more than 90 days but less than five years for entry into the GMF. Additional lead-time is needed for all actions requiring coordination with the FCC or FAA. Requirements not in accordance with the national table of allocations, or have unusual technical parameters, may require additional engineering time or study, consequently requiring even longer lead-times. Temporary assignments of less than 90 days and not requiring national level coordination require at least a 30-day lead-time.

3.4.2. **For operations outside the US&P.** Unified commands set lead-times for frequency actions based on agreements with host governments. Generally, theater CINC Joint Frequency Management Offices (JFMO) require a minimum of 90 days lead-time to process overseas requirements. The 90 day time starts when the CINC JFMO receives the request. Refer to theater instructions for specific lead-times.

3.5. Frequency Coordination. The DoD does not own any spectrum exclusively for military use. In fact, spectrum is not owned by any organization, it is “allocated” or managed. Either the FCC (state, local, public and private users) or the Department of Commerce, National Telecommunications and Information Administration (federal users) manages all spectrums. The DoD manages the spectrum between 225 MHz and 399.9 MHz for the federal government (NTIA) through the Military Assignment Group. When it is necessary for the Air Force to use frequencies managed by another federal department or agency, the Air Force must coordinate with the appropriate agency prior to submitting a frequency request to the NTIA for assignment action. Coordinate frequency actions as outlined in paragraph 3.5.1. through 3.5.9. and include a statement of completed coordination and comments with the frequency action.

3.5.1. Federal Communications Commission (FCC). Coordinate any use of non-government spectrum (frequencies) with the appropriate FCC field office prior to submitting the frequency proposal to the national level for assignment action. Refer to AFMAN 33-120 for the appropriate FCC field office and their area of responsibility, and to the NTIA Manual for the civil frequency bands requiring coordination. The AFFMA completes final coordination with the FCC national office before submitting the request to the FAS for assignment action.

3.5.2. Federal Aviation Administration (FAA). The FAA manages certain frequency bands through the Aeronautical Assignment Group (AAG), a working group of the FAS. Coordinate any use of FAA managed spectrum with the appropriate FAA region prior to submitting the frequency proposal to the national level for assignment action. Refer to AFMAN 33-120 for the appropriate FAA regional office, their corresponding AOR, and the frequency bands requiring coordination. The AFFMA, a member of the AAG, completes final coordination with the AAG before submitting the request to the FAS for assignment action.

NOTE: Any changes in technical parameters require coordination with the FAA regional office prior to submitting the proposal to the AFFMA.

3.5.3. DoD Area Frequency Coordinators (AFC). Coordinate frequency actions at, among, and within radio line-of-sight of ranges according to ACP 190, US SUPP-1(C), and the NTIA Manual. Refer to AFMAN 33-120 for the appropriate DoD AFC and a description of their corresponding AOR.

3.5.4. Aerospace and Flight Test Radio Coordinating Council (AFTRCC). Coordinate all frequency requirements that fall within the 1435-1535 and 2310-2390 MHz band with the appropriate AFC prior to submission. The AFC coordinates with the AFTRCC coordinator. Refer to AFMAN 33-120 for the appropriate AFC and their corresponding areas of responsibility.

3.5.5. Army. Coordinate all Air Force frequency requirements on an Army installation with the appropriate Army frequency coordinator prior to submission. Refer to AFMAN 33-120 for the appropriate Army AFC and their corresponding AOR.

3.5.6. Navy. Coordinate all Air Force frequency requirements on a Navy installation with the appropriate Navy frequency coordinator prior to submission. Refer to AFMAN 33-120 for the appropriate Navy AFC and their corresponding AOR.

3.5.7. Canadian border. Coordinate with Canada prior to assigning frequencies within 80 kilometers (approximately) of the US/Canadian border for terrestrial communications requirements and 250 nautical miles for aeronautical communications requirements. The NTIA coordinates the frequency proposal requirements with Canada. Refer to the NTIA Manual for specific guidance.

3.5.8. Mexican border. Coordinate with Mexico prior to assigning frequencies within 75 kilometers (approximately) of the US/Mexican border for terrestrial communications requirements and 250 nautical miles (approximately) for aeronautical communications requirements. The NTIA coordinates the necessary requirements with Mexico. Refer to the NTIA Manual for specific guidance.

NOTE: A new arrangement is currently being negotiated between the US and the Federated States of Mexico. When this bilateral agreement is finalized, the FMOs will receive new coordination requirements.

3.5.9. Outside US&P. MAJCOMs coordinate frequency actions according to theater policies and procedures through the appropriate Air Force component command.

3.6. Frequency Application and Approval Channels.

3.6.1. Air Force Organizations in the US&P.

3.6.1.1. Installation Spectrum Manager (ISM). The ISM is responsible to the installation commander for managing all frequency use on the installation. Therefore, all units/organizations assigned to the installation submit their frequency application proposals to the ISM. The ISM sends these proposals as follows:

3.6.1.1.1. Submit proposals for host installation units to the host MAJCOM.

3.6.1.1.2. Submit proposals for tenant units, when the requirement supports the host installation mission, to the host MAJCOM (even if the tenant is the sole user of the frequency) with a copy to the tenant unit's MAJCOM.

3.6.1.1.3. Submit proposals for tenant units, when the requirements are not in support of the host installation mission, to the supported unit's MAJCOM with a copy to the host and tenant unit MAJCOMs.

3.6.1.1.3.1. Submit frequency requirements for a HQ ACC maintenance expediter net on a Headquarters Air Mobility Command (HQ AMC) installation to HQ ACC with a copy to HQ AMC.

3.6.1.1.3.2. Submit frequency requirements for a HQ AFMC unit in support of HQ ACC on a HQ AMC installation to HQ ACC with a copy to HQ AFMC and HQ AMC.

3.6.1.2. US-based MAJCOMs send frequency actions in SFAF for their units deploying outside the US&P to the Air Force component of the theater unified command. For example, HQ ACC sends frequency actions to the Pacific Air Forces (PACAF) for a fighter wing deploying to the Pacific Area (Commander-in-Chief, Pacific Command). PACAF, in turn, processes these actions according to theater procedures.

3.6.1.3. Air National Guard (ANG) and Headquarters Air Force Reserve Center (HQ AFRC) units will:

3.6.1.3.1. Submit actions to support day-to-day operations, training requirements, fixed air traffic control, and navigational aids at operating bases and permanent training sites, through appropriate channels to the ANG Readiness Center (ANGRC) or HQ AFRC, respectively. The ANGRC or HQ AFRC sends the actions to AFFMA.

3.6.1.3.2. Submit requests in support of exercise or readiness inspections through the tasking agency to AFFMA.

3.6.1.3.3. The ANG units submit actions to support state-levied mission requirements through appropriate channels to The Adjutant General (TAG). The TAG sends them according to state directives, to the FCC Safety and Special Radio Services Bureau.

3.6.1.4. USAF Military Affiliate Radio System (MARS) activities:

3.6.1.4.1. Submit actions for MARS VHF nets on a military installation or on outlying locations hosted by an installation through the host-installation spectrum manager to the host MAJCOM. MAJCOMs coordinate with the Chief, USAF MARS (HQ AFCA/GCW, 203 W. Losey St., Room 3100, Scott AFB IL 62225-5222) to ensure the net is authorized before sending the action to AFFMA.

3.6.1.4.2. Civilian affiliate stations send frequency actions to the state MARS director. The state MARS director sends actions to the region communications manager, who, in turn, sends it to the Chief, USAF MARS (HQ AFCA/GCW). If approved, the Chief, USAF MARS sends the frequency action to AFFMA.

3.6.1.4.3. The Chief, USAF MARS and AFFMA coordinate high frequency (HF) actions. HF assignments are made on a regional basis. The authority for station operation is AFI 33-106. No formal action is required.

3.6.1.5. Civil Air Patrol (CAP). The CAP is an auxiliary of the Air Force under Title 10, U.S.C., *Armed Forces*, Chapter 909, *Civil Air Patrol*. It is a nonprofit, civilian organization under Title 36 U.S.C., *Patriotic and National Observances, Ceremonies, and Organizations*, Chapter 403, *Civil Air Patrol*. It receives support from the DoD and other federal departments or agencies of the US under Title 10 U.S.C., Section 9445, *Funds Appropriate for the Civil Air Patrol*. AFI 10-2701, *Organization and Function of the Civil Air Patrol*, outlines Air Force support to the CAP. CAP units submit frequency actions that support Air Force operations and training, whether in whole or in part, to CAP National Headquarters (CAP-USAF/CC), 105 South Hansell Street, Maxwell AFB AL 36112-6332. CAP National Headquarters sends the frequency actions to Headquarters Air Education and Training Command (HQ AETC/DO), 1 F Street Ste 2, Randolph AFB TX 78150-4325, who in turn, sends them to AFFMA.

3.6.1.5.1. AFFMA may assign CAP frequencies for Air Force units to communicate with the CAP during training activities and Search and Rescue (SAR) operations.

3.6.1.5.2. Air Force units may allow CAP to use their assigned frequencies to communicate with other Air Force units during SAR missions.

3.6.1.5.3. CAP units give the ISM a list of frequencies used on the installation. A number of these should appear in the installation data pull.

3.6.2. Air Force Organizations outside the US&P. Overseas units submit frequency requests according to unified command policy. The CINC is responsible for military use of frequencies within the command's geographical area.

3.7. Contractor Use of Frequencies.

3.7.1. Air Force contracts. Contractors must submit frequency requests in direct support of Air Force contracts through the Air Force representative (normally the ISM if on an Air Force base), to the MAJCOM responsible for administering the contract. The contractor must obtain frequency assignments from the FCC for requirements not in direct support of the contract.

3.7.2. Multiple service contracts. Contractors must submit frequency requests in support of a multiple service contract through the appropriate FMO channels to the military department that is the executive service for the contract. The contractor must obtain frequency assignments from the FCC for requirements not in direct support of the contract.

3.8. Shared-Use Facilities. Users submit frequency requests for shared-use facilities through the RF spectrum management channels of the agency that maintains the equipment.

3.9. Frequency Review Program. The purpose of the Frequency Review Program is to ensure the GMF and FRRS accurately reflect current operations. Users submit reviews NLT 60 days before the date shown

in SFAF Item 142 to ensure the frequency assignment is updated and current by the review date. During the review process, the ISM will verify the frequency is in use and still required to meet mission requirements. In addition, the ISM reviews all the technical parameters of the assignment. You must send all the review information to the next level for processing. **NOTE:** This program is commonly referred to as the Five-Year-Review.

3.10. Frequencies Not Requiring Specific Assignment. International distress and emergency frequencies do not need specific assignments for use. AFMAN 33-120 lists these and other frequencies not requiring assignment for use in the US&P. Outside the US&P, theater commanders and host nations determine frequencies that do not need specific assignment.

3.11. Emergency Frequency-Sharing Notification. Under emergency conditions, several government agencies (i.e., example a FEMA operation) may operate on, or near, frequencies assigned to Air Force organizations. When this occurs, one of the involved agencies should coordinate with the affected Air Force organization to arrange frequency sharing during the emergency. Air Force units will cooperate fully during emergencies unless frequency sharing would jeopardize mission-essential operations. To properly coordinate at the national level, a representative for the local Air Force units must upchannel the information concerning the emergency situation. Ideally, this information should flow through command channels to notify AFFMA. If this is not possible, then pass the information directly:

3.11.1. During normal duty hours use the telephone (commercial 703-428-1503/44 or DSN 328-1503/44).

3.11.2. During non-duty hours send a PRIORITY message to the parent MAJCOM, with an information copy to AFFMA.

3.12. Air Force Spectrum Interference Resolution (AFSIR) Program. The focus of the AFSIR program is to resolve EMI at the lowest level. A unit affected by an EMI incident must begin an immediate investigation to identify the source and submit an EMI report within 24 hours of the incident, according to AFI 10-707.

3.12.1. EMI from Frequency Assignment Problems. When an EMI clearly resulted from problems in assigning a frequency, request assistance through command frequency management channels, to AFFMA. Do not go directly to the FCC. AFFMA personnel coordinate with the FCC and other appropriate government agencies if their investigation shows that non Air Force equipment caused the EMI.

3.12.2. EMI from Hostile Sources. Interference incidents that are suspected to be caused by hostile electronic attack should be assessed at the lowest possible level with the chain of command and reported to the JSC, Joint Spectrum Interference Resolution (JSIR) Office according to instructions in AFI 10-707 and CJCSM 3320.02A, *Joint Spectrum Interference Resolution (JSIR)*, 1 December 1999.

3.12.3. Requesting Interference Resolution Assistance.

3.12.3.1. The 738TH Engineering Installation Squadron (738 EIS), Keesler AFB MS is responsible for providing technical assistance to Air Force units to resolve interference problems under the AFSIR Program. Units who experience interference and need on-site assistance to resolve the problem may request Quick Fix Interference Reduction Capability assistance by the 738 EIS according to directions in AFI 10-707. The 738 EIS coordinates funding issues with the AFFMA when on-site assistance is needed.

3.12.3.2. Joint Spectrum Interference Resolution (JSIR). The JSC is the OPR for the JSIR Program. The JSC/JSIR also provides analytical and on-site assistance in resolving EMI problems. When all Air Force resources are exhausted, contact the JSIR for assistance, through appropriate command channels.

Chapter 4

SYSTEMS GUIDANCE

4.1. Electronic Fuses. Installation commanders set local coordination procedures for installation and tenant activities that develop, design, or use electronic fuses. Electronic fuses that activate detonation devices do not require a DD Form 1494. Units that develop, design, or use electronic fuses must:

- 4.1.1. Research, determine, and evaluate existing frequency assignments for compatibility with the intended electromagnetic environment.
- 4.1.2. Contact the applicable spectrum managers (MAJCOM or DoD AFC) to select fuse frequencies.
- 4.1.3. Limit fuse-triggering transmitter emissions to the narrowest bandwidth possible.
- 4.1.4. Reduce the level of unnecessary emissions.
- 4.1.5. Use equipment tunable on more than one frequency.
- 4.1.6. Provide protection from accidental triggering by other RF emissions through coding, improving receiver selectivity, shielding components, or other techniques.

4.2. Federal and FCC Non-Licensed Devices.

4.2.1. Non-licensed devices must conform to the FCC Rules or the technical criteria in the NTIA Manual. These devices include, but are not limited to; wireless local area networks, wireless barcode readers, bio-medical telemetry, and cordless telephones. Air Force activities will not indiscriminately use non-licensed equipment for critical tactical or strategic command and control applications essential for mission success, protection of human life, or protection of high-value assets, as they offer no protection of spectrum use in support of operational requirements.

4.2.2. International. US non-licensed devices require host nation approval to operate. These devices include but are not limited to; wireless local area networks, wireless barcode readers, biomedical telemetry, and cordless telephones.

4.2.2.1. (Added-INCIRLIK) FCC licensed low power emitters are not authorized for use in Turkey. The use of low power emitters is restricted to emitters approved by the host nation.

4.2.2.2. (Added-INCIRLIK) Examples of low power emitters include but are not limited to wireless LANs, baby monitors, cordless telephones, stereo extenders, and radio-controlled toys.

4.2.2.3. (Added-INCIRLIK) Penalties for use of these devices are determined by the host nation and include monetary fines, confiscation of equipment, or imprisonment.

4.2.3. US&P operations. Non-licensed devices do not require a DD Form 1494. However, it is highly recommended that frequency registration be coordinated and recorded at the local spectrum management level. Users who purchase COTS that conforms with the FCC or NTIA technical standards for non-licensed devices must operate under the following conditions:

4.2.3.1. This equipment must accept interference from any federal, non-federal, or civilian electronic system; non-licensed device, or industrial, scientific, and medical application.

4.2.3.2. Air Force activities operating a non-licensed device that causes interference to an authorized radio service shall promptly take steps to eliminate the interference.

4.2.3.3. Upon notification by cognizant spectrum management personnel that the device is causing interference, the operator of the non-licensed device shall cease all radiation from the device until the interference is eliminated.

4.2.3.4. Non-licensed devices subject to FCC certification, notification, or verification shall bear the appropriate FCC statement of limitations to operations.

4.2.3.5. Users are cautioned not to modify, modernize, enhance, or change the equipment's power, antenna, waveform, or information transfer characteristics in any manner that would cause it to violate the NTIA criteria for non-licensed devices or the device's FCC type certification.

4.2.4. Outside US&P operations. Theater commanders and host nations decide if frequency support is available and the requirements for frequency assignments. Users must submit a DD Form 1494 through the supporting spectrum manager for equipment that intentionally radiates and will be deployed outside the US&P. After obtaining favorable host nation guidance, users may request frequency assignment.

4.3. Commercial Satellite Use. All satellite terminals capable of accessing commercial satellites in the Fixed Satellite Service must comply with the CFR Title 47, Part 25, *Satellite Communications*. Submit proof of Part 25 compliance as part of the DD Form 1494 package through frequency management channels to the AFFMA. Request required frequency assignments once the NTIA and the FCC have granted support. Refer to AFMAN 33-120 for additional information.

4.4. Spacecraft and Balloon Systems. Spacecraft and balloon systems developed or operated by the Air Force must be capable of on and off control of emissions by telecommand.

4.5. Narrowband Operations. The NTIA mandated narrowband channelization for frequency bands 138-150.8, 162-174, and 406.1-420 MHz. In the US&P, all Air Force-owned or leased LMR equipment operating in the US&P must be narrowband capable by the following dates:

4.5.1. Land Mobile Radios (LMR) Personal Wireless Communication Systems (PWCS). Using LMR/PWCS equipment requires frequency assignments. Using activities must have frequency assignments before making contract commitments. See AFMAN 33-120 for further guidance.

4.5.1.1. All systems in the 162-174 MHz band must be narrowband capable by 1 January 2005.

4.5.1.2. All systems in the 138-150.8 and 406.1-420 MHz bands must be narrowband capable by 1 January 2008.

4.6. Trunked LMR Systems. All trunked LMR systems require DD Form 1494 and SPS approval prior to the application for frequency assignment. Installation of a trunked system requires consolidation of all LMR nets. Federal agencies managing trunked systems shall allow access by other federal agencies where such access is technically and operationally feasible. All trunking proposal requests must include a current SPS and IRAC docket number. Delete LMR frequencies when no longer needed.

4.6.1. Trunking usage reports. Air Force units using trunked systems shall submit usage reports through command channels to the AFFMA for the first five years of operation. Usage reports will be the basis for justifying additional frequencies. Refer to AFMAN 33-120 for the usage reports format and procedures.

4.7. Receive-Only Systems. Although these systems do not require USMCEB allocations, submit a DD Form 1494 to:

- 4.7.1. Provide interference protection, update the spectrum use database, and conduct EMC studies.
- 4.7.2. Process coordination contours for the NTIA Manual for operational (Stage 4) receive-only satellite communications terminals.

4.8. Commercial Antennas on Federal Property. Commercial vendors may request the installation of commercial antennas on Air Force property. To ensure no adverse impacts to DoD systems, commanders and/or agency directors shall coordinate requests through the Base C-E Real Property Office for the placement of new telecommunications services on Air Force property. The vendor will send the request to the Joint Spectrum Center. The ISM may facilitate in these procedures. Refer to AFI 32-9003, *Granting Temporary Use of Air Force Real Property* for additional information.

4.9. Built-In Test Equipment. This equipment does not require a DD Form 1494 unless it exceeds the technical criteria in the NTIA Manual or if the intended use is outside the US&P. Frequency assignments are required for built-in test equipment.

4.10. Family Radio Service (FRS). The FRS is one of the CB radio services. No license or frequency assignment is required in the US&P. Possession and use of FRS radios outside the US&P is subject to host country and international regulations. Air Force FRS users must comply with the following conditions:

- 4.10.1. Find regulations governing the use of FRS in CFR, Title 47, Part 95, Subpart 95.191, *Eligibility and Responsibility*; Subpart 95.192, *Authorized Locations*; Subpart 95.193, *Types of Communications*; Subpart 95.194, *FRS Units*.
- 4.10.2. Possession of FRS devices outside the US&P is subject to host country and international regulations. Air Force members or employees are not authorized to use FRS radios outside the US&P without host nation approval. Unified command directives apply. Coordinate FRS use with the appropriate Air Force component spectrum management office.
- 4.10.3. Air Force members and employee users are responsible for all communications using FRS radio equipment. Use must comply with federal, state, and local law.
- 4.10.4. The installation commander may prohibit them when interference to mission essential electromagnetic equipment is anticipated.
- 4.10.5. Air Force members and employees using FRS radios must relinquish channel use for emergency communication messages concerning the immediate safety of life or the immediate protection of property.
- 4.10.6. Use only FCC certified FRS. Any modification to the equipment to boost power, add a different antenna, or to increase the gain of the current antenna, cancels the FCC certification and voids authority. Illegal FRS equipment is subject to confiscation.
- 4.10.7. FRS devices are not authorized for classified, sensitive but unclassified, command and control, squadron operational, aircraft/flight line maintenance, fire crash, explosive ordinance disposal, security forces, emergency/disaster response, tactical or training operations, and/or medical communications.

4.10.8. Under no circumstance will FRS radios be permitted for use in controlled areas without express written consent of the installation commander and full compliance with all security directives.

4.10.9. Use of FRS cannot be protected from harmful interference. FRS radios may not cause interference to any licensed device and must accept all interference from licensed devices.

4.10.10. Use of FRS radios may be restricted by the FCC if the station is located within the National Radio Quiet Zone (areas of MD, VA, and WV bounded by 39°15'N 78°30'W, 39°15'N 80°30'W, 37°30'N 78°30'W, 37°30'N 80°30'W).

4.10.11. Air Force members and employees who belong to non-appropriated fund activities and some appropriated fund activities may use FRS radios, as follows: To communicate with non-government users during Air Force supported or sponsored community activities, i.e., scouts, Special Olympics, youth activities/sporting events, civil disasters, funeral details for deceased military veterans, etc. In addition, FRS radios may be used for administrative purposes when communicating in warehouses, commissaries, base exchanges, billeting areas, work crews, etc. FRS radios may also be used on Air Force installations where the public is permitted entrance and in family housing areas.

4.11. Inter-Squad Radio (ISR). The ISR is the military FRS radio and is to be used for appropriated funds. The ISR is recommended over the commercial FRS for Air Force members and employees. Because it is in the government RF band and the potential for RF interference is less, it can be used for tactical or training operations unlike the FRS that uses civil spectrum. Other operations permitted with the ISR are cantonment areas and roving/walking guard posts.

4.11.1. Do not modify the ISR.

4.11.2. Only Air Force members and employees will use the ISR.

4.11.3. Do not use the ISR for personal use.

4.12. General Mobile Radio Service (GMRS). The GMRS is a personal two-way voice communications service used to facilitate the activities of an individual and their immediate family. GMRS cannot be used by government agencies under any circumstances. Title 47, U.S.C. Part 95, *Personal Radio Services*, provides regulatory guidance.

4.13. International Maritime Satellite (INMARSAT). INMARSAT is a commercial satellite system subject to international law and treaty and can only be used for peaceful purposes. INMARSAT uses a satellite link to interface with terrestrial telephone systems or other INMARSAT terminals. Neither spectrum certification nor frequency assignments are required; however, special procedures exist for the purchase and use of INMARSAT terminals. Users must contact HQ AFCA/GCW, through command channels, for guidance. Obtain additional information at www.afca.scott.af.mil/inmarsat/.

4.14. Leased Services. Refer to AFMAN 33-120.

4.15. Electronic Warfare (EW). The EW operations can be airborne, ground, or both operations. There are no frequency bands allocated for EW training operations. Therefore, special procedures have been established for coordinating and using FCC and FAA controlled frequency bands. Submit frequency clearance requests for Electronic Attack (EA) operations outside the US&P and Canada according to theater policies and procedures.

4.15.1. Users of airborne ECM equipment must submit a DD Form 1494 for all airborne EA equipment. Submit airborne clearance requests for use in US&P and Canada through Air Force channels to AFFMA according to CJCSM 3212.02.

4.15.2. Ground threat simulators. Users must submit a DD Form 1494 for all ground threat simulators. Submit frequency assignment actions according to AFMAN 33-120 and USMCEB PUB 7.

4.16. Commercial-Off-the-Shelf (COTS). COTS devices must remain unmodified as procured to maintain the definition. Paragraph 4.2. identifies COTS exempt from frequency process. Process all others through the normal DoD spectrum approval process.

4.17. Joint Tactical Information Distribution System/Multifunctional Information Distribution System (JTIDS/MIDS). JTIDS/MIDS, a communication component of Link 16, is a secure, jam-resistant, tactical, radio navigation and communications system that uses the JTIDS/MIDS terminal as its communications component. It operates in the 969 – 1206 MHz band over 51 frequencies with the IFF 1030 and 1090 MHz RF bands notched.

4.17.1. Frequency assignments and operations must be in strict adherence with CJCSI 6232.01B, *Link-16 Spectrum Deconfliction within the United States and Possessions*, 16 March 2001, and the Joint Spectrum Users Guide, that are located on the HQ ACC web site at <https://totn.acc.mil/>.

4.19. (Added-INCIRLIK) The use of Citizen's Band (CB) radios is determined by the host nation.

4.19.1. (Added-INCIRLIK) US manufactured CB radios do not comply with host nation requirements and are strictly forbidden. The use of CB radios by foreign nationals is not permitted in Turkey.

4.19.2. (Added-INCIRLIK) Penalties for use of these devices are determined by the host nation and include monetary fines, confiscation of equipment, or imprisonment.

4.20. (Added-INCIRLIK) The use of amateur (HAM) radios is determined by the host nation.

4.20.1. (Added-INCIRLIK) US licensing does not guarantee reciprocal privileges in Turkey. Applications for temporary amateur radio licenses may be obtained through the Ministry of Transportation Directorate of Telecommunications.

4.20.2. (Added-INCIRLIK) Before the use of amateur radio equipment, personnel must obtain a Turkish amateur radio license. A copy must be provided to the installation frequency manager for:

4.20.2.1. (Added-INCIRLIK) Coordinating area of intended operation and antenna location.

4.20.2.2. (Added-INCIRLIK) Listing frequencies and power authorized.

4.20.2.3. (Added-INCIRLIK) Determining possible interference to mission critical equipment and other authorized users.

Chapter 5

INFORMATION COLLECTIONS, RECORDS, AND FORMS

5.1. Information Collections, Records, and Forms.

5.1.1. Information Collections. The Annual Trunking Usage Report prescribed in paragraphs [1.5.1.1.14.](#) and [1.5.5.16.](#) is exempt from licensing in accordance with AFI 33-324.

5.1.2. Records. Records pertaining to Consolidated Annual Trunking Usage Reports (paragraph [1.5.1.1.14.](#)), survey findings (paragraph [1.5.2.11.](#)), EMI Reports ([3.12.](#)), and interference incident reports (paragraph [3.12.2.](#)) are created by this publication. Retain and dispose of these records according to AFMAN 37-139 (will convert to AFMAN 33-322, Volume 4).

5.1.3. Forms adopted and prescribed.

5.1.3.1. DD Form 1494, **Application for Equipment Frequency Allocation**, and AF Form 847, **Recommendation for Change of Publication**, are adopted by this publication.

5.1.3.2. No forms are prescribed by this publication.

JOHN L. WOODWARD, JR., Lt Gen, USAF
DCS/Communications and Information

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

Title 5, U.S.C., Section 552, (b)(1), *Government Organizations and Employees*

Title 10, U.S.C., *Armed Forces*, Chapter 909, *Civil Air Patrol*

Title 10 U.S.C., Section 9445, *Funds Appropriated for the Civil Air Patrol*

Title 36 U.S.C., *Patriotic and National Observances, Ceremonies, and Organizations*, Chapter 403, *Civil Air Patrol*

Title 47, U.S.C., Section 151 et seq., *The Communications Act of 1934*

CFR Title 47, U.S.C., Part 25, *Satellite Communications*

CFR Title 47, U.S.C., Part 95, *Personal Radio Services*

Title 47, U.S.C., Part 95, Subpart 95.191, *Eligibility and Responsibility*

Title 47, U.S.C., Part 95, Subpart 95.192, *Authorized Locations*

Title 47, U.S.C., Part 95, Subpart 95.193, *Types of Communications*

Title 47, U.S.C., Part 95, Subpart 95.194, *FRS Units*

ACP 190 US SUPP-1(C), *Guide to Frequency Planning (U)*

DoC NTIA, *Manual of Regulations and Procedures for Federal Radio Frequency Management* ("NTIA Manual"), January 2000, w/May and September 2000 Revisions

CJCSI 3320.01, *Electromagnetic Spectrum Use in Joint Military Operations*, 1 May 2000

CJCSI 3320.03, *Joint Communications Electronics Operation Instruction*, 1 January 1999

CJCSI 6232.01B, *Link-16 Spectrum Deconfliction within the United States and Possessions*, 16 March 2001

CJCSM 3212.02, *Performing Electronic Attack in the United States and Canada for Tests, Training, and Exercises*, 1 October 1998

CJCSM 3320.01, *Joint Operations in Electromagnetic Battlespace*, 6 January 2000

CJCSM 3320.02A, *Joint Spectrum Interference Resolution (JSIR)*, 1 December 1999

DoDD 3222.3, *Department of Defense Electromagnetic Compatibility Program (EMCP)*, August 20, 1990

DoDD 4650.1, *Management and Use of the Radio Frequency Spectrum*, June 24, 1987

DoD 5200.1-R, *Information Security Program Regulation*, January 14, 1997

DoD 4120.24-M, *Defense Standardization Program (DSP) Policies and Procedures*, March 2000

USMCEB PUB 7, *Frequency Resource Record System (FRRS) Standard Frequency Action Format (SFAF)*, 1 October 1998, w/Changes 1 and 2

MCEB-M-019-98, *DoD Frequency Assignment Classification Guide*

AFPD 33-1, *Command, Control, Communications, and Computer (C4) Systems*

AFI 10-707, *Spectrum Interference Resolution Program*

AFI 16-201, *Disclosure of Military Information to Foreign Governments and International Organizations*

AFI 31-401, *Managing the Information Security Program*

AFI 32-9003, *Granting Temporary Use of Air Force Real Property*

AFI 33-106, *Managing High Frequency Radios, Land Mobile Radios, Cellular Telephones, and the Military Affiliate Radio System*

AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information Collection*

AFI 33-360, Volume 2, *Forms Management Program*

AFMAN 33-120, *Radio Frequency (RF) Spectrum Management*

AFMAN 37-139, *Records Disposition Schedule* (will convert to AFMAN 33-322, Volume 4)

Abbreviations and Acronyms

AAG—Aeronautical Assignment Group

ACP—Allied Communications Publication

AFC—Area Frequency Coordinator

AFFMA—Air Force Frequency Management Agency

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFSIR—Air Force Spectrum Interference Resolution

AFTRCC—Aerospace and Flight Test Radio Coordinating Council

ANG—Air National Guard

ANGRC—ANG Readiness Center

AOR—Area of Responsibility

C4—Command, Control, Communications, and Computers

CAP—Civil Air Patrol

CB—Citizen Band

C-E—Communications-Electronic

CFR—Code of Federal Regulations

CINC—Commander-in-Chief

COTS—Commercial-off-the-shelf

DISA—Defense Information Systems Agency
DoC—Department of Commerce
DoD—Department of Defense
DoDD—Department of Defense Directive
EA—Electronic Attack
738 EIS—738TH Engineering Installation Squadron
EMC—Electromagnetic Compatibility
EMI—Electromagnetic Interference
EW—Electronic Warfare
FAA—Federal Aviation Administration
FAS—Frequency Assignment Subcommittee
FCC—Federal Communications Commission
FDO—Field Disclosure Office
FMO—Frequency Management Office
FRRS—Frequency Resource Records System
FRS—Family Radio Service
GHz—Gigahertz
GMF—Government Master File
GMRS—General Mobile Radio Service
HF—High Frequency
HQ ACC—Headquarters Air Combat Command
HQ AFCA—Headquarters Air Force Communications Agency
HQ AFMC—Headquarters Air Force Materiel Command
HQ AFRC—Headquarters Air Force Reserve Center
HQ AMC—Headquarters Air Mobility Command
HQ USAF—Headquarters United States Air Force
INMARSAT—International Maritime Satellite
IRAC—Interdepartment Radio Advisory Committee
ISM—Installation Spectrum Manager
ISR—Inter-Squad Radio
ITU—International Telecommunications Union
JFMO—Joint Frequency Management Office

JFP—Joint Frequency Panel

JSC—Joint Spectrum Center

JSIR—Joint Spectrum Interference Resolution

JTIDS—Joint Tactical Information Distribution System

kHz—Kilohertz

LMR—Land Mobile Radio

MAJCOM—Major Command

MCEB—Military Communications-Electronics Board

MARS—Military Affiliate Radio System

MHz—Megahertz

MIDS—Multifunctional Information Distribution System

NLT—Not Later Than

NTIA—National Telecommunications and Information Administration

OSAM—Office Spectrum Analysis and Management

PACAF—Pacific Air Forces

POC—Point of Contact

PWCS—Personal Wireless Communication Systems

RF—Radio Frequency

RFA—Radio Frequency Authorization

RR—ITU Radio Regulations

SAF—Secretary of the Air Force

SAR—Search and Rescue

SFAF—Standard Frequency Action Format

SPS—Spectrum Planning Subcommittee

TAG—The Adjutant General

U.S.C.—United States Code

USD—Under Secretary of Defense

US&P—United States and its Possessions

USMCEB—United States Military Communications-Electronics Board

VHF—Very High Frequency

Terms

NOTE: The following definitions of frequency management terms were extracted from international, national, and DoD regulations and directives. Where appropriate, the source is given in parentheses following each definition: **(RR)**--*International Telecommunications Union Radio Regulations*, **(NTIA)**--*National Telecommunications and Information Administration Manual of Regulations and Procedures for Federal Radio Frequency Management*.

Allocation—(of a frequency band) Entry in the Table of Frequency Allocations of a given frequency band for its use by one or more (terrestrial or space) radio communication services or the radio astronomy service under specified conditions. This term also applies to the frequency band concerned. **(RR)**

Assignment—(of a radio frequency or radio frequency channel) Authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions. **(RR)**

Commercial-Off-the-Shelf (COTS)—C-E equipment that can be procured by the general public wholesale or retail.

Electromagnetic Compatibility (EMC)—The condition that prevails when telecommunications equipment is performing its individually designed function in a common electromagnetic environment without causing or suffering unacceptable degradation due to unintentional EMI to or from other equipment in the same environment. **(NTIA)**

Electromagnetic Interference (EMI)—(1) DoD: The ability of systems, equipment, and devices that utilize the electromagnetic spectrum to operate in their intended operational environments without suffering unacceptable degradation or causing unintentional degradation because of electromagnetic radiation or response. It involves the application of sound electromagnetic spectrum management; system, equipment, and device design configuration that ensures interference-free operation; and clear concepts and doctrines that maximize operational effectiveness. Also called Electromagnetic Compatibility. See also electromagnetic spectrum, electronic warfare, and spectrum management. **(JP 1-02)** (2) Any electromagnetic disturbance that interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics or electrical equipment. It can be induced intentionally, as in some forms of electronic warfare, or unintentionally, as a result of spurious emissions and responses, intermodulation products, and the like.

Foreign Disclosure—The approval to release technical information from the DD Form 1494.

Frequency Assignment—The authorization given by an administration for a radio station to use a radio frequency or radio frequency channel under specified conditions. **(RR)**

Frequency Assignment, Group—Frequencies assigned to a MAJCOM to satisfy short-term requirements throughout the US&P. Group assignments are not assigned exclusively to a single MAJCOM.

Frequency Assignment, Temporary—An assignment effective for 90 days or less.

Frequency Coordination—The process of obtaining approval to use the radio frequency spectrum via arrangements and technical liaison for the purpose of minimizing harmful interference through cooperative use of the radio frequency spectrum. To be effective, the coordination must extend through the planning, proposal, and actual in use phases of radio frequency utilization.

Harmful Interference—Interference that endangers the functioning of a radio navigation service or of

other services, or seriously degrades, obstructs, or repeatedly interrupts a radio communications service operating in accordance with the ITU Radio Regulations. **(RR)**

Industrial, Scientific, and Medical Applications —(of radio frequency energy) Operation of equipment or appliances designed to generate and use local radio-frequency energy for industrial, scientific, medical, domestic, or similar purposes, excluding applications in the field of telecommunications. **(RR)**

Interference—The effect of unwanted energy due to one or a combination of emissions, radiations, or inductions upon reception in a radio communication system, manifested by any performance degradation, misinterpretation, or loss of information that could be extracted in the absence of such unwanted energy. **(RR)**

Line-of-Sight—The distance to the horizon at a given height approximated by the formula: $D = \text{square root } (2ht) + \text{square root } (2hr)$, where $D = \text{LOS (miles)}$, $ht = \text{height of transmit antenna in feet}$, and $hr = \text{height of receive antenna in feet}$.

Low Power Communication Device—A restricted radiation device, exclusive of those employing conducted or guided RF techniques, used for the transmission of signs, signals (including control signals), writing, images and sounds or intelligence of any nature by radiation of electromagnetic energy. Examples: Wireless microphone, phonograph oscillator, radio-controlled garage door opener, and radio-controlled models. **(NTIA)**

NTIA Manual—DoC NTIA manual of regulations and procedures for federal RF management.

Radio Frequency Spectrum—The RF spectrum includes the frequencies from 3.0 kHz to 400 GHz. The presently allocated spectrum is from 9 kHz to 300 GHz.

Range Commander—In this instruction, the commander of an Air Force test or tactical range.

Restricted Radiation Device—A device in which the generation of RF energy is intentionally incorporated into the design, and in which the RF energy is conducted along wires or is radiated, exclusive of transmitters for which provisions are made under those parts of Chapter 7 of the NTIA Manual other than Part 7.9, and exclusive of ISM equipment. **(NTIA)**

Spurious Emission —Emission on a frequency or frequencies that are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions. **(RR)**

Telecommunication—Any transmission, emission, or reception of signs, signals, writings, images, and sounds or information of any nature by wire, radio, visual or other electromagnetic systems. **(RR)**

Attachment 2

FREQUENCY ASSIGNMENT CLASSIFICATION REFERENCE

A2.1. Security Classification. This attachment is a reference used for Air Force specific frequency assignment requirements. As a reference it explains the handling and retention of the classification of frequency assignments; whereas the DoD 5200.1R is general in nature. This attachment is reference only and is not to be used as a classification source.

A2.1.1. Primarily the association with the function they support determines security classification of DoD and Federal Government frequency assignments and the information in them. Classify individual data items according to DoD 5200.1-R and AFI 31-401, *Managing the Information Security Program*.

A2.2. Individual Air Force Frequency Assignments.

A2.2.1. The following frequency assignment information, standing alone or in combination and not associated with any other assignment information, is UNCLASSIFIED. Mark these items as (U) in the SFAF.

A2.2.1.1. Overall classification of the frequency assignment (SFAF Item 005).

A2.2.1.2. Security classification modification (SFAF Item 006).

A2.2.1.3. Type of action (SFAF Item 010).

A2.2.1.4. Agency serial number (SFAF Item 102).

A2.2.1.5. IRAC docket number (SFAF Item 103).

A2.2.1.6. List serial number (SFAF Item 105).

A2.2.1.7. Serial replaced, delete date (SFAF Item 106).

A2.2.1.8. Docket number of older authorizations (SFAF Item 108).

A2.2.1.9. Operating frequency or frequency band and excluded frequency or frequency band (SFAF Items 110 and 111).

A2.2.1.10. Agency (SFAF Item 200).

A2.2.1.11. Command (SFAF Item 204).

A2.2.1.12. IRAC Notes (SFAF Item 500).

A2.2.1.13. Frequency action officer (SFAF Item 701).

A2.2.1.14. Control/request number (SFAF Item 702).

A2.2.2. Classify other assignment information, standing alone or in combination with other information (including [A2.2.1.](#)), according to DoD 5200.1-R and AFI 31-401 by the appropriate classification authority. Include the appropriate classification marking with the corresponding SFAF item.

A2.3. Lists of Air Force Frequency Assignments.

A2.3.1. Although most individual frequency assignment records in the Air Force Radio Frequency Authorization (RFA) are individually unclassified, classify the total RFA according to the highest classification level of the assignments it contains. Lists (two or more frequencies) of unclassified frequency assignment records in a given range of frequencies, or in a given area, can be classified because they may provide information leading to the disclosure of military or national security-related operations and scientific and technological matters relating to national security. These lists can indicate the overall strategic telecommunications capabilities of the US, and their disclosure could cause damage to national security. The continued protection of this information is essential to national security because it pertains to communications security and reveals vulnerabilities and capabilities. Its unauthorized disclosure can reasonably be expected to result in nullifying the effectiveness of telecommunications networks and the capability of the US.

A2.3.2. The MCEB-M-019-98 gives guidance on classifying compilations of frequency assignment records. Based on this guidance:

A2.3.2.1. Classify RFAs or frequency lists at the highest level of any individual frequency assignment it contains.

A2.3.2.2. When RFAs or frequency lists contain the aggregation of UNCLASSIFIED DoD, MILDEP, or NSA frequency assignment records, classify it CONFIDENTIAL, except as exempted by paragraph [A2.5](#).

A2.3.2.3. A RFA or frequency list containing only UNCLASSIFIED assignments of one unit or location is considered UNCLASSIFIED. For example, to select all records where SFAF data item 200 (Agency) = USAF would result in a CONFIDENTIAL aggregate list; whereas, select all records where SFAF item 301 (Transmitter Location) or 401 (Receiver Location) = Hill would result in an UNCLASSIFIED aggregate list. Users that plan to operate in an UNCLASSIFIED environment should select from the FRRS only UNCLASSIFIED records applicable to their operational requirements.

A2.3.2.4. CD-ROMs containing UNCLASSIFIED FRRS data must be marked and controlled as CONFIDENTIAL and stored in appropriate GSA security containers because they contain aggregate data. These CONFIDENTIAL CDs may be inserted into UNCLASSIFIED computers for the purpose of downloading an UNCLASSIFIED portion of the FRRS for local use. Users operating in an UNCLASSIFIED mode must still use caution to ensure they download only the data necessary for local use.

A2.4. Marking.

A2.4.1. All DoD frequency assignment material must contain proper warnings/markings, as outlined, whether computer-generated or manually applied. Mark DoD data extracted from frequency assignment databases with one of the following warning statements, depending upon which category is applicable.

A2.4.2. Mark documents/material containing UNCLASSIFIED frequency assignment records/data classified CONFIDENTIAL under Section 3 of the MCEB-M-019-98 CONFIDENTIAL and carry markings according to existing DoD security regulations and AFI 31-401. For example:

Derived From: DoD Frequency Assignment Security Classification Guide

Source Dated: 1 January 1998

Declassify on: X4

A2.4.3. The documents/material will have the following warning attached:

A2.4.3.1. **WARNING** – This document/listing has been classified CONFIDENTIAL IAW DoD Frequency Assignment Security Classification Guide. The UNCLASSIFIED frequency assignment records/data must be protected IAW Section 3 of the DoD Frequency Assignment Security Classification Guide.

A2.4.3.2. The destruction of UNCLASSIFIED records/data in this document must be IAW existing directives governing destruction of classified material.

A2.4.3.3. This document contains records/data that are exempt from public release under the provisions of Title 5, U.S.C., Section 552(b)(1), *Government Organizations and Employees*. The release of any records to any non-DoD organization requires approval of the authority (agency) that made the assignment.

A2.4.4. Mark material containing SECRET or CONFIDENTIAL frequency assignment records and, either UNCLASSIFIED DoD frequency assignment records that meet the aggregation criteria set forth in Section 3 of the MCEB-M-019-98 or UNCLASSIFIED DoD frequency assignment records/data extracted from the aggregated lists according to current security directives and contain the following warning statement:

A2.4.4.1. **WARNING** – In addition to SECRET or CONFIDENTIAL data, this document contains UNCLASSIFIED frequency assignment records/data that must be protected according to Section 3 of the DoD Frequency Assignment Security Classification Guide.

A2.4.4.2. Destroy UNCLASSIFIED records/data in this document according to existing directives governing destruction of classified material.

A2.4.4.3. This document contains records/data that are exempt from public release under the provisions of the Title 5 U.S.C., Section 552(b)(1). The release of any records to any non-DoD organization requires approval of the authority (agency) that made the assignment.

A2.4.5. Mark documents/material containing one or more UNCLASSIFIED frequency assignment record/data extracted from aggregated lists that are classified CONFIDENTIAL as set forth in Section 3 of the MCEB-M-019-98 UNCLASSIFIED and contain the following warning:

A2.4.5.1. **WARNING** – This document/listing is UNCLASSIFIED; however, it contains frequency assignment records/data that you must protect according to Section 3 of the MCEB-M-019-98.

A2.4.5.2. Destroy UNCLASSIFIED records/data in this document according to existing directives governing destruction of classified material.

A2.4.5.3. This document contains records/data that are exempt from public release under the provisions of the Title 5, U.S.C., Section 552(b)(1). The release of any records to any non-DoD organization requires approval of the authority (agency) that made the assignment.

A2.5. Exemptions.

A2.5.1. The following types of frequency assignment records are exempt from the classification requirements listed in paragraph [A2.3.2.2.](#):

A2.5.1.1. Lists of UNCLASSIFIED frequency assignments to government users that are not intended to be made public (i.e., travelers information stations, weather broadcast stations, certain stations in the maritime radio navigation and maritime mobile services, and stations in the international broadcast services).

A2.5.1.2. Lists of aeronautical station frequencies under the purview of the Aeronautical Assignment Group when used in the National Airspace System.

A2.5.1.3. Lists of UNCLASSIFIED frequency assignment records that operate on frequencies authorized to non-government stations, where such use is necessary to intercommunicate with non-government stations for coordination with non-government activities.

A2.5.1.4. Lists of frequencies in NTIA or DoD channel plans when specific location, technical parameters, and organization are not collectively included in the channel plan.